

[UNDER-BUMP-METALLURGY LAYER]

Abstract

An under-bump-metallurgy layer is provided. The under-bump-metallurgy layer is formed over the contact pad of a chip and a welding lump is formed over the under-ball-metallurgy layer. The under-bump-metallurgy layer comprises an adhesion layer, a barrier layer and a wettable layer. The adhesion layer is directly formed over the contact pad. The barrier layer made from a material such as nickel–vanadium alloy is formed over the adhesion layer. The wettable layer made from a material such as copper is formed over the barrier layer. The wettable layer has an overall thickness that ranges from about 3 μ m to about 8 μ m.